

# South Westside Basin Groundwater Management Plan

July 2012



# South Westside Basin Groundwater Management Plan

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## ACRONYMS AND ABBREVIATIONS

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1999 Plan	proposed Westside Basin AB 3030 Groundwater Management Plan
AB	Assembly Bill
Advisory Committee	South Westside Basin GWMP Advisory Committee
AF	acre-feet
AFY	acre-feet per year
Basin Plan	San Francisco Bay Basin Water Quality Control Plan
BMO	Basin Management Objective
CalWater	California Water Service Company
cfs	cubic feet per second
DPH	California Department of Public Health
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EPA	U.S. Environmental Protection Agency
ft	feet
GAMA	Groundwater Ambient Monitoring Assessment
gpm	gallons per minute
GPS	global positioning satellites
Groundwater Task Force	South Westside Basin Groundwater Task Force
GSR	Regional Groundwater Storage and Recovery Project
GWMP	groundwater management plan
Groundwater Model	Westside Basin Groundwater Flow Model
ILPS	In-Lieu Pilot Study
InSAR	interferometric synthetic aperture radar
IRWMP	Integrated Regional Water Management Plan
JPA	joint powers agreement
MCL	maximum contaminant level



mgd	million gallons per day
µg/L	micrograms per liter
mg/L	milligrams per liter
MOU	Memorandum of Understanding
N	nitrogen
NAWQA	National Ambient Water Quality Assessment
NCCWD	North Coast County Water District
NPDES	National Pollutant Discharge Elimination System
NSMCSD	North San Mateo County Sanitation District
PCE	Tetrachloroethylene
Plan Area	area covered by South Westside Basin Groundwater Management Plan
ppm	parts per million
psi	pounds per square inch
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SB	Senate Bill
SFIA	San Francisco International Airport
SFPUC	San Francisco Public Utilities Commission
SMCL	secondary maximum contaminant level
SVOCs	semi-volatile organic compounds
TCE	Trichloroethylene
TDS	total dissolved solids
USGS	United States Geological Survey
USDA-NRCS	United States Department of Agriculture Natural Resources Conservation Service
Water Board	California State Water Resources Control Board
Westside Basin	Westside Groundwater Subbasin
Wholesale Water Supply Agreement	Water Supply Agreement between The City And County of San Francisco And Wholesale Customers in Alameda County, San Mateo County, And Santa Clara County

## 1.1 PURPOSE OF THE GROUNDWATER MANAGEMENT PLAN

The purpose of the South Westside Basin Groundwater Management Plan (GWMP), including development of the plan and the plan document itself, is to provide a framework for regional groundwater management in the South Westside Basin that sustains the beneficial use of the groundwater resource. This includes:

- Informing the public of the importance of groundwater and of the challenges and opportunities presented by groundwater supplies;
- Developing consensus among stakeholders on issues and solutions related to groundwater;
- Building relationships among stakeholders within the basin and between state and federal agencies; and
- Defining actions to ensure the long-term sustainability of groundwater resources in the South Westside Basin.

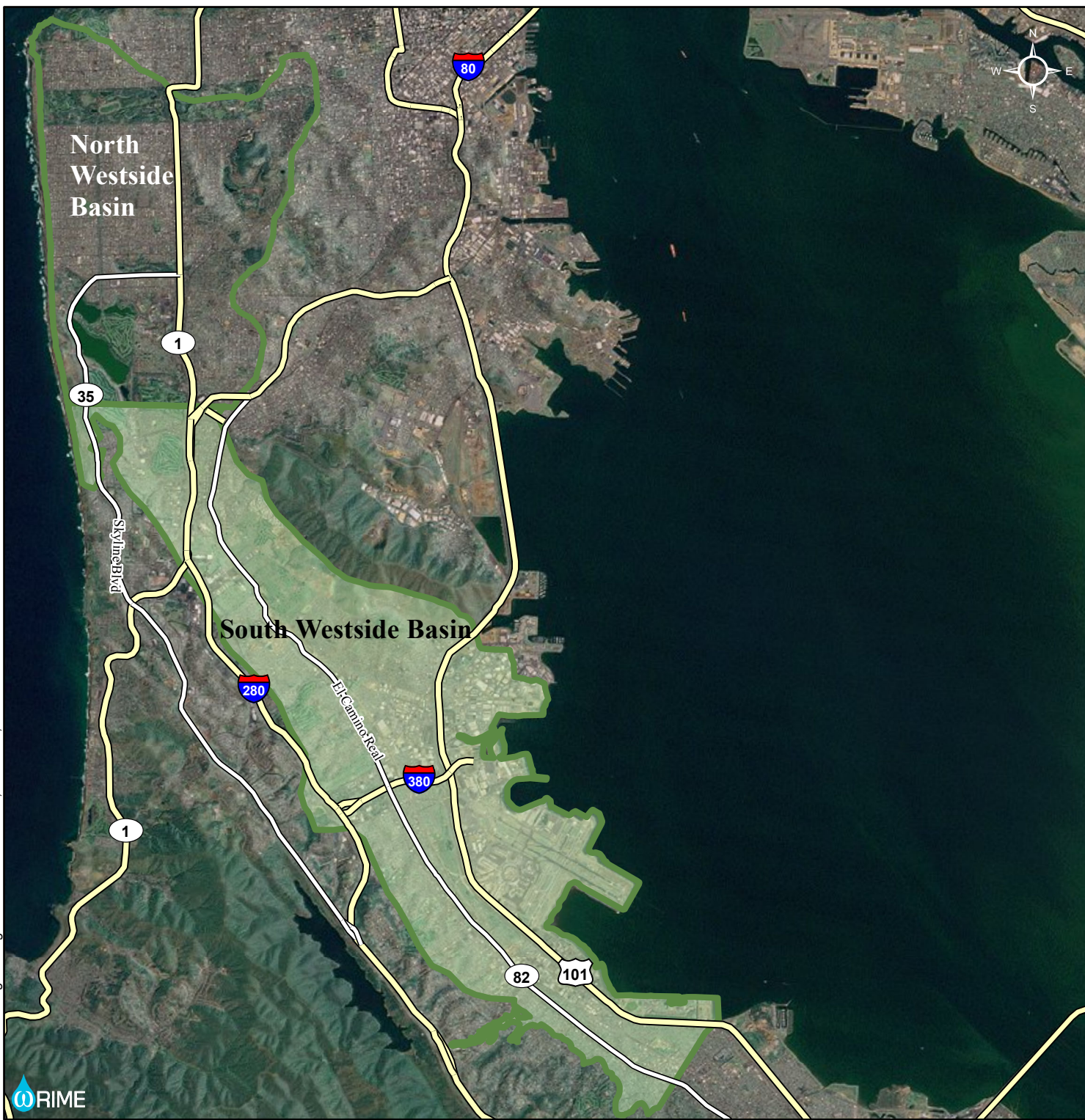
This GWMP provides recommendations that, when implemented, are intended to maintain or enhance long-term groundwater levels and quality and minimize land subsidence.

The goal of the GWMP is to ensure a sustainable, high-quality, reliable water supply at a fair price for beneficial uses achieved through local groundwater management.

## 1.2 DESCRIPTION OF THE GROUNDWATER BASIN AND PLAN AREA

The South Westside Basin GWMP area (Plan Area) is the portion of the Westside Groundwater Subbasin (Westside Basin), Basin 2-35, as defined by the California Department of Water Resources (DWR), within the boundaries of San Mateo County. The Plan Area is shown in Figure 1.1. Areas within the northern portion of the DWR-defined Westside Basin, in the City and County of San Francisco, are described in the draft *North Westside Basin Groundwater Basin Management Plan* (SFPUC, 2005).

Overlying municipalities, shown in Figure 1.2, include Daly City, Colma, South San Francisco, San Bruno, Millbrae, and Burlingame. Water agencies serving the Plan Area are shown in Figure 1.3 and include Daly City, California Water Service Company (CalWater) – South San Francisco District, San Bruno, Millbrae, and Burlingame. Additionally, the San Francisco Public Utilities Commission (SFPUC) provides retail water service to the Golden Gate National Cemetery in San Bruno and wholesale water to the retail agencies.



# Figure 1.1

## Plan Area

### Legend

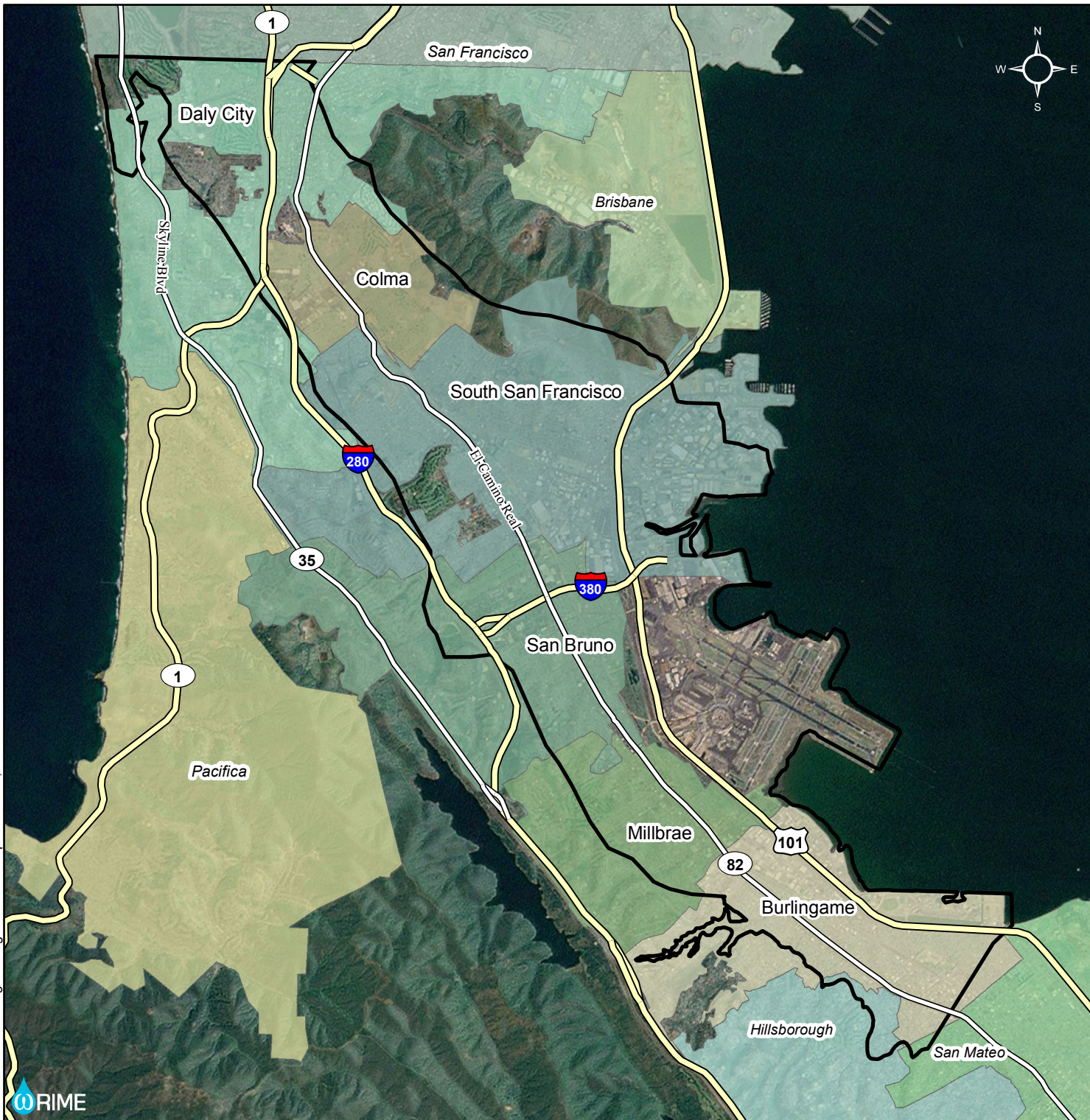
- Highways
- Groundwater Basin
- Plan Area

0 0.5 1 2 Miles

Source: Groundwater Basin: DWR, 2003







## Figure 1.2 Municipalities

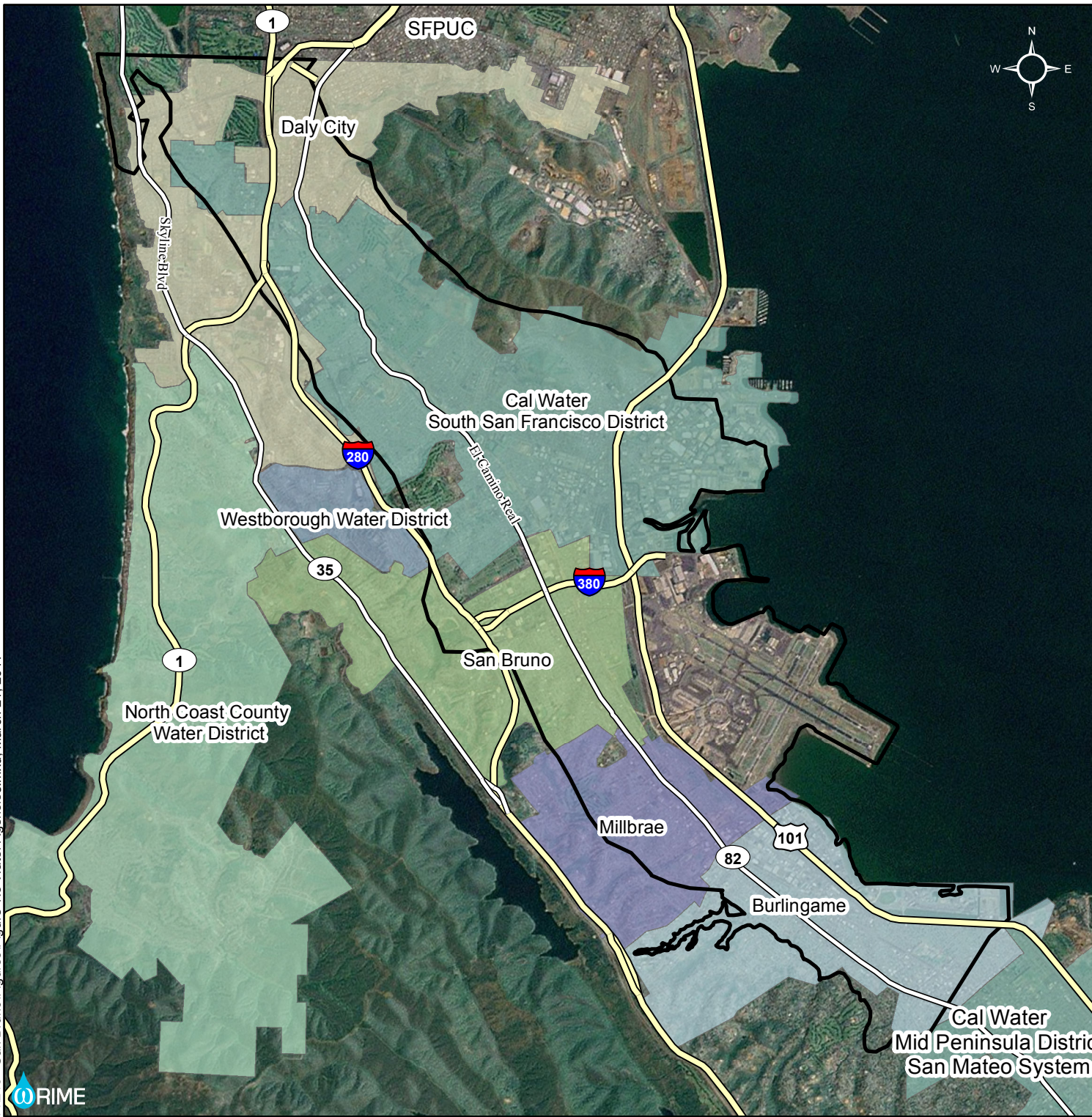
### Legend

- Highways
- Plan Area

0 0.5 1 2 Miles







# Figure 1.3 Water Agencies

## Legend

- Highways
- Plan Area

0 0.5 1 2 Miles

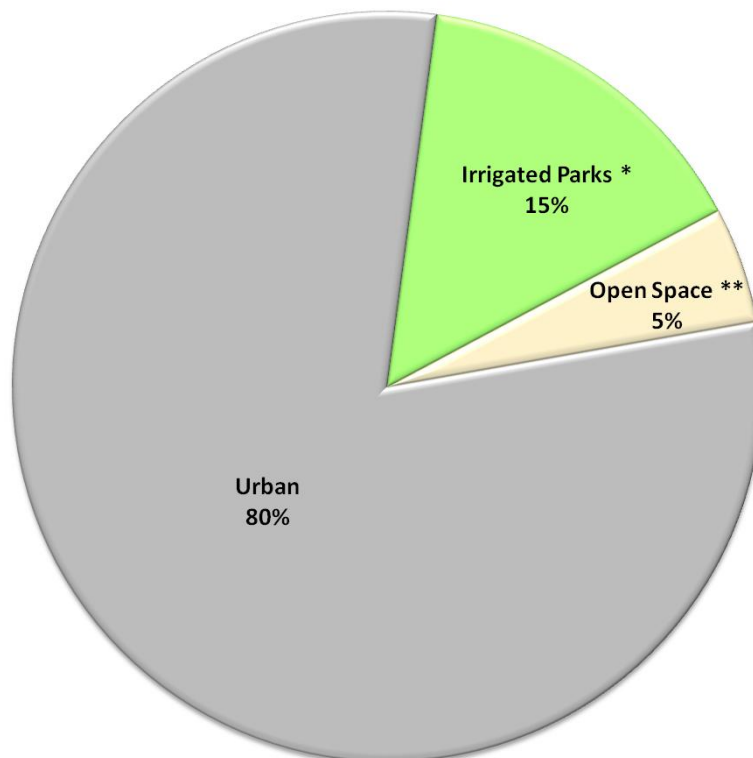




### 1.3 OVERVIEW OF WATER REQUIREMENTS AND SUPPLIES

Located on the San Francisco Peninsula, the South Westside Basin underlies approximately 25 square miles and provides groundwater to Colma, Daly City, San Bruno, South San Francisco, unincorporated areas, cemeteries, golf courses, and several smaller users.

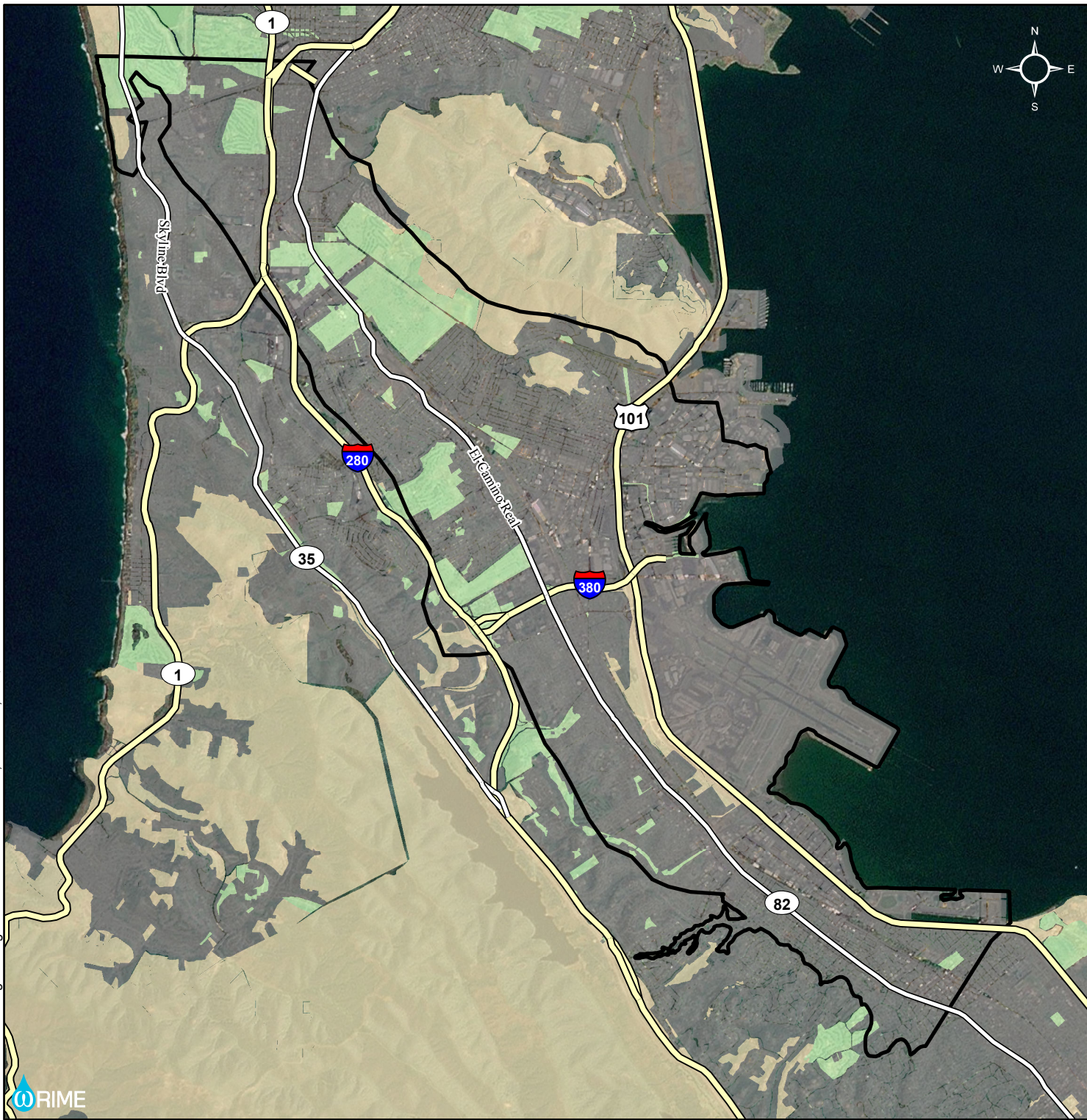
The Plan Area is considered built-out, with very little undeveloped land available for development. Future growth will occur through infill, including increased density on existing developed parcels. Land use in the basin is approximately 80 percent urban; 15 percent irrigated parks, golf courses, and cemeteries; and 5 percent unirrigated open space, as shown in Figures 1.4a and 1.4b. Urban areas include large portions of the cities of Daly City, Colma, South San Francisco, San Bruno, Millbrae, and Burlingame, as well as urbanized unincorporated areas. The total 2010 water demand for the area was approximately 29,000 acre-feet (AF) (Bay Area Water Supply & Conservation Agency [BAWSCA] 2011; SFPUC, 2011).



\* Irrigated Parks includes cemeteries, golf courses, and parks

\*\* Open Space includes unirrigated vacant land

**Figure 1.4a Current Land Use Summary**



## Figure 1.4b Current Land Use

### Legend

Highways

Plan Area

### Planned Land Use

Urban

Parks, Cemeteries, Golf Courses

Open or Vacant Land

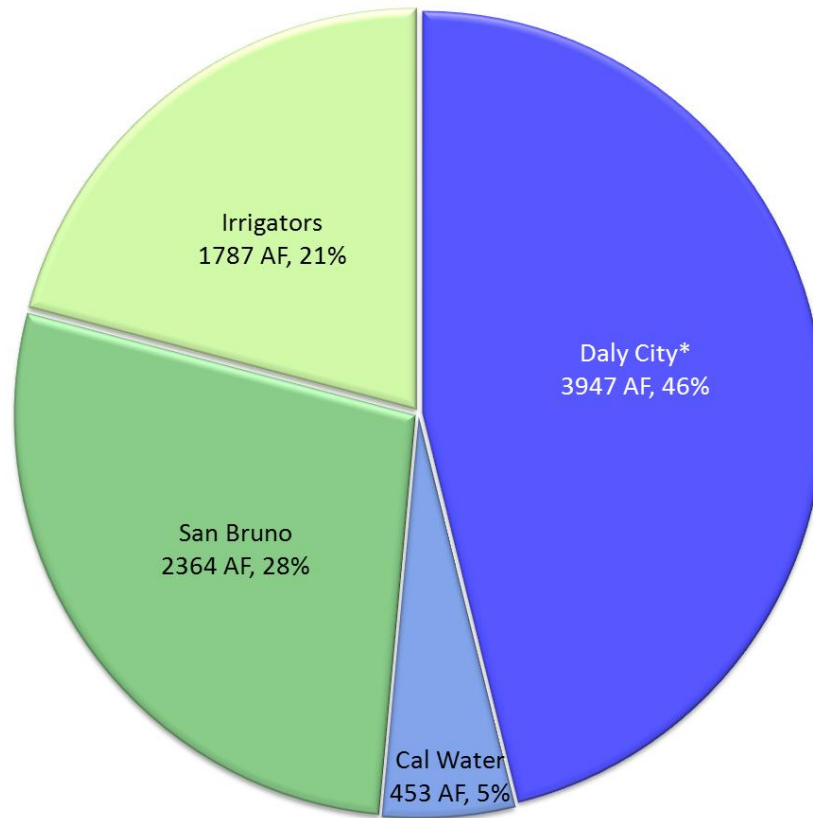
0 0.5 1 2 Miles

Source: Land Use - Based on ABAG, 2006





In the South Westside Basin, groundwater plays a critical role, providing up to 50 percent of some localities' water supplies, making it an important resource for the future prosperity and sustainability of the region. Approximately 8,600 AF of groundwater was produced from the South Westside Basin in 2010 (SFPUC, 2011) including 2,200 AF of groundwater banked through in-lieu recharge under the In-Lieu Pilot Study (see Section 1.5.3). Figure 1.5 shows the breakdown of groundwater production by producer for 2010. Imported water from SFPUC's Hetch Hetchy system, along with small quantities of recycled water, provides the remaining supply.



\* Value includes 2,204 AF of banked in-lieu recharge water

**Figure 1.5 Groundwater Production by Entity, 2010**

While the Plan Area and surrounding region are largely built-out, additional growth through infill is expected, along with associated increases in water demands. As demands for imported water supplies continue to rise, groundwater will continue to play a key role in delivering a cost-effective and reliable water supply to the South Westside Basin.

## 1.4 LEGISLATION RELATED TO GROUNDWATER MANAGEMENT PLANS

Groundwater is a resource shared by numerous users; it does not recognize or adhere to jurisdictional lines and cannot be tagged for use by certain users. Groundwater rights have evolved through case law since the late 1800s. Currently, three basic methods are available for managing groundwater resources in California:

- Local agency management under authority granted by the California Water Code or other applicable state statutes (such as through a GWMP);
- Local government groundwater ordinances or joint powers agreements (JPA); and
- Court adjudications.

No law requires that any of these forms be applied within a basin. As such, management is often instituted after local agencies or landowners recognize specific issues in groundwater conditions. The level of groundwater management in any basin or subbasin is often dependent on water availability and demand, as well as groundwater quality.

In an effort to standardize groundwater management, the California Legislature passed Assembly Bill (AB) 255 (Stats. 1991, Ch. 903) in 1991. This legislation authorized local agencies overlying basins subject to critical overdraft conditions, as defined in DWR's Bulletin 118-80 (DWR, 1980), to establish programs for groundwater management within their service areas. Water Code § 10750 et seq. provided these agencies with the powers of a water replenishment district to raise revenue for facilities to manage the basin for the purposes of extraction, recharge, conveyance, and water quality management. Seven local agencies adopted plans under this authority. The South Westside Basin has never been defined by DWR as being critically overdrafted, as such it was not subject to AB 255.

The provisions of AB 255 were repealed in 1992 with the passage of AB 3030 (Stats. 1992, Ch. 947). This legislation greatly increased the number of local agencies authorized to develop a GWMP and set forth a common management framework for local agencies throughout California. AB 3030, codified in Water Code § 10750 et seq., provides a systematic procedure to develop a groundwater management plan by local agencies overlying the groundwater basins defined by DWR's Bulletin 118 (DWR, 1975) and updates (DWR, 1980, 2003). Upon adoption of a plan, these agencies could possess the same authority as a water replenishment district to "fix and collect fees and assessments for groundwater management" (Water Code, § 10754). However, the authority to fix and collect these fees and assessments is contingent on receiving a majority of votes in favor of the proposal in a local election (Water Code, § 10754.3).

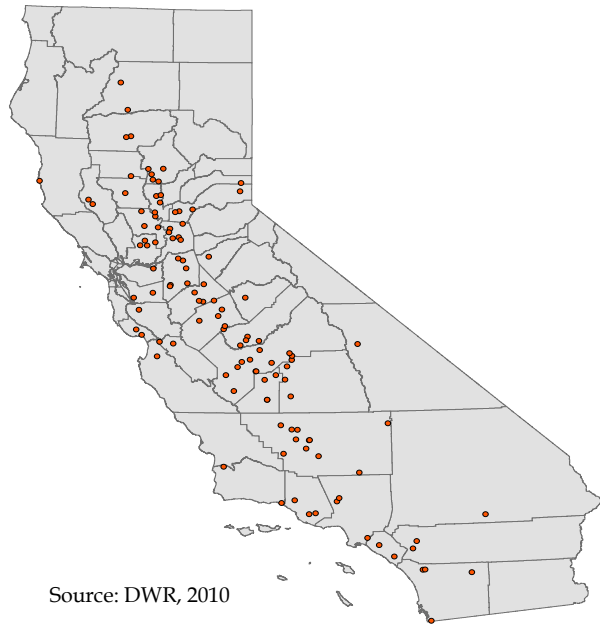
By 2003, more than 200 agencies (shown in Figure 1.6) had adopted an AB 3030 GWMP (DWR, 2003). None of these agencies is known to have exercised the authority of a water replenishment district.

Water Code § 10755.2 expands groundwater management opportunities by encouraging coordinated plans and authorizing public agencies to enter into a JPA or memorandum of understanding (MOU) with public or private entities providing water service. At least 20 coordinated plans have been prepared to date involving nearly 120 agencies, including cities and private water companies.

In 2002, the California Legislature passed Senate Bill (SB) 1938 (Stats. 2002, ch. 603), which provides local agencies with incentives for improved groundwater management.

While not providing a new vehicle for groundwater management, SB 1938 modified the Water Code by requiring specific elements be included in a GWMP for an agency to be eligible for certain funding administered by DWR for groundwater projects.

Through AB 3030 and SB 1938, local agencies can now develop GWMPs that guide the sustainable use of the groundwater resource while also providing access to certain DWR funding sources.



Source: DWR, 2010

**Figure 1.6. Location of areas with groundwater management plans**

## **1.5 PRIOR AND CURRENT WATER MANAGEMENT PLANNING EFFORTS**

The South Westside Basin has an extensive history of management of groundwater and surface water resources. This document builds upon those efforts, described below.

### **1.5.1 DRAFT WESTSIDE BASIN GROUNDWATER MANAGEMENT PLAN**

In 1999, cities and water purveyors overlying much of the Westside Basin (Daly City, CalWater, San Bruno, and SFPUC) cooperatively developed a proposed Westside Basin AB 3030 Groundwater Management Plan (1999 Plan; Bookman-Edmonston, 1999), pursuant to the guidelines in AB 3030. Although not adopted by the cities due to data gaps and other concerns



at the time, the four cities and water purveyors have voluntarily implemented much of the recommendations and other aspects of the 1999 Plan.

The 1999 Plan established a goal of protecting water quality and enhancing water supply reliability in the Westside Basin. This goal was supported by five plan elements:

- **Groundwater Storage and Quality Monitoring** – development of a basin-wide monitoring program
- **Saline Water Intrusion** – use of monitoring data to indicate any occurrence of saltwater intrusion and to provide technical information needed to develop appropriate management responses if intrusion occurs
- **Conjunctive Use** – development of a multi-agency conjunctive use program, including monitoring
- **Recycled Water** – development of a recycled water program for landscape irrigation and other non-potable uses
- **Source Water and Wellhead Protection** – protection of groundwater from contamination from methyl tert-butyl ether (MTBE) and other contaminants through source water assessment methodologies

### 1.5.2 REGIONAL GROUNDWATER STORAGE AND RECOVERY PROJECT

The proposed Regional Groundwater Storage and Recovery (GSR) Project is designed to balance the use of both groundwater and surface water to increase water supply reliability during dry years or in emergencies. Located in the South Westside Basin, the proposed project is sponsored by SFPUC in coordination with partner agencies: CalWater, Daly City, and San Bruno. The partner agencies currently purchase wholesale surface water from SFPUC and also independently operate groundwater production wells for drinking water and irrigation.

The project would consist of installing up to 16 new recovery well facilities in the South Westside Basin to pump stored groundwater during a drought. During years of normal or above normal precipitation, the proposed project would provide surface water to the partner agencies to reduce the amount of groundwater pumped. The reduced pumping is estimated to result in the storage of approximately 61,000 AF of water in the long-term. This is estimated to allow recovery of stored water at a rate of up to 7.2 million gallons per day (mgd) for a 7.5-year drought period, if the full 61,000 AF is stored prior to the drought period (MWH, 2007). The storage of water in the basin was analyzed through the In-Lieu Pilot Study (ILPS), which is described in the following section.

The GSR Project is in the design and environmental review phases and is envisioned to coordinate management of groundwater supplies through an Operating Committee. The development of the GSR Project includes extensive study of the hydrogeology of the South

Westside Basin and was documented in the Alternatives Analysis Report (MWH, 2007) and in reports documenting monitoring well installation (Kennedy/Jenks, 2009 and 2010).

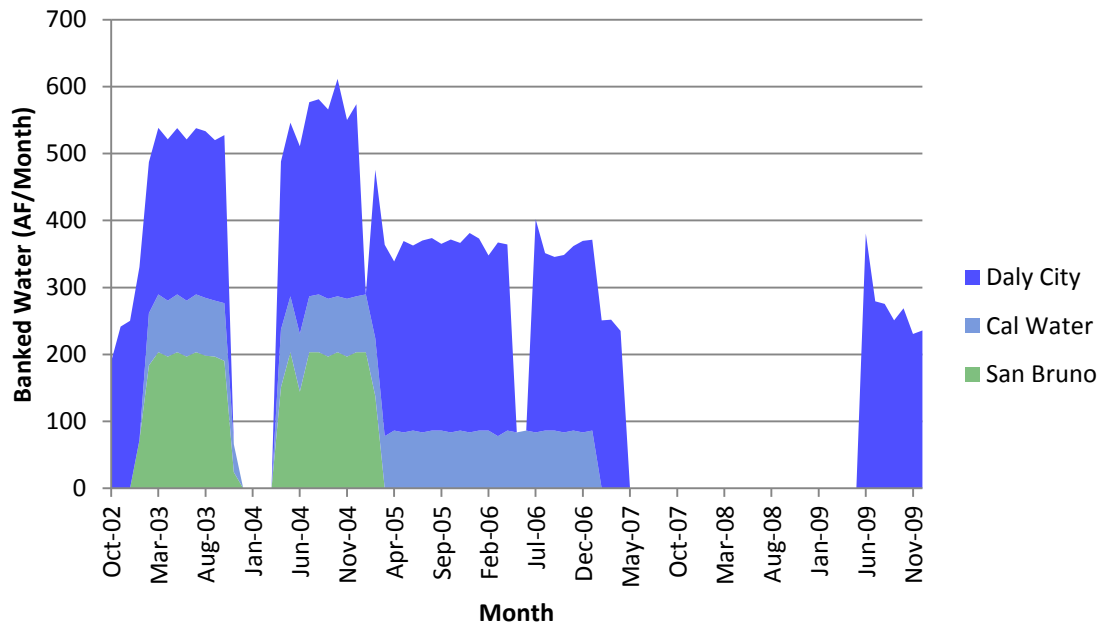
The parties are working to develop an operating agreement in connection with the proposed GSR Project. To-date, the SFPUC has installed ten multi-level monitoring wells in the South Westside Basin (each consisting of 4 nested monitoring wells). The Proposed Project Draft EIR is scheduled to be circulated in 2012.

### 1.5.3 IN-LIEU PILOT STUDY

Beginning in 2002, SFPUC delivered surface water in-lieu of groundwater through the ILPS to Daly City, San Bruno and CalWater - South San Francisco District. The ILPS demonstrated that SFPUC system water can be stored in the Basin through the delivery of in-lieu water to replace groundwater that Daly City, San Bruno, and CalWater refrained from pumping (Luhdorff & Scalmanini Consulting Engineers [LSCE], 2005).

During the ILPS, significant quantities of water were banked as shown in Figure 1.7 and discussed below:

- **Daly City** - Through May 7, 2007, SFPUC delivered 13,077 AF of in-lieu water to Daly City. Beginning in May 2009, SFPUC resumed delivery of in-lieu water to Daly City, resulting in additional banking of water. In 2009 and 2010, 1,921 AF and 2,204 AF of water was banked by Daly City, respectively.
- **CalWater - South San Francisco District** - Between February 1, 2003 and November 1, 2003, SFPUC delivered 802 AF of in-lieu water to CalWater - South San Francisco District. When the ILPS restarted on April 1, 2004, CalWater did not participate and did not resume pumping, but continued to rely on wholesale water for all of its water needs in its South San Francisco service area. This resulted in an increase in basin water levels as if CalWater had continued to participate in the ILPS, and a corresponding increase in stored water of 930 AF between April 1, 2004 and March 1, 2005.
- **San Bruno** - From January 28, 2003 through March 1, 2005, SFPUC delivered 3,915 AF of in-lieu water to San Bruno.



**Figure 1.7 Banked Groundwater in In-Lieu Pilot Study**

#### **1.5.4 SAN FRANCISCO BAY BASIN WATER QUALITY CONTROL PLAN**

The *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan) (California Regional Water Quality Control Board, San Francisco Bay Region [RWQCB], 2010) was developed by the RWQCB to provide positive and firm direction for future water quality control.

The Basin Plan fulfills the following needs:

- Requirements from the U.S. Environmental Protection Agency (EPA) for such a plan to allocate federal grants to cities and districts for construction of wastewater treatment facilities.
- A basis for establishing priorities for disbursing both state and federal grants for constructing and upgrading wastewater treatment facilities.
- Requirements of the Porter-Cologne Act that call for water quality control plans in California.
- A basis for the RWQCB to establish or revise waste discharge requirements and for the State Water Resources Control Board (Water Board) to establish or revise water rights permits.
- Conditions (discharge prohibitions) that must be met at all times.
- Water quality standards applicable to waters of the Region, as required by the federal Clean Water Act.

- Water quality attainment strategies, including total maximum daily loads required by the Clean Water Act, for pollutants and water bodies where water quality standards are not currently met.

While the Basin Plan has a definite focus on surface water resources, groundwater quality is included as well, particularly through the watershed management approach. This approach includes groundwater as well as surface water bodies (e.g., streams, rivers, lakes, reservoirs, wetlands, and the surrounding landscape) in an effort to develop unique, integrated solutions for individual watersheds through a stakeholder process.

As with surface water, the Basin Plan establishes beneficial uses for groundwater throughout the San Francisco Bay Region. For the South Westside Basin, the Basin Plan identifies two areas: Westside C (2-35C), extending from the San Francisco County line to the City of South San Francisco, and Westside D (2-35D), extending from South San Francisco to the southern extent of the South Westside Basin. The designated beneficial uses for groundwater within these areas, and within areas in the North Westside Basin, are shown in Table 1.1.

**Table 1.1 Basin Plan Beneficial Uses for Groundwater**

Basin Plan Basin	Location	Beneficial Uses			
		Municipal and Domestic Water Supply	Industrial Process Water Supply	Industrial Service Water Supply	Agricultural Water Supply
<b>Westside C</b>	South Westside Basin	Existing	Potential	Potential	Existing
<b>Westside D</b>	South Westside Basin	Existing	Existing	Existing	Potential
<b>Westside A</b>	North Westside Basin	Existing	Potential	Potential	Existing
<b>Westside B</b>	North Westside Basin	Potential	Potential	Potential	Existing

The Basin Plan sets objectives for groundwater, with maintenance of existing high-quality of groundwater being the primary objective. In addition, at a minimum, groundwater shall not contain concentrations of bacteria, chemical constituents, radioactivity, or substances producing taste and odor in excess of the objectives unless naturally occurring background concentrations

are greater. Under existing law, the Water Board regulates waste discharges to land that could affect water quality, including both groundwater and surface water quality. Waste discharges that reach groundwater are regulated to protect both groundwater and any surface water in continuity with groundwater. Waste discharges that affect groundwater in continuity with surface water cannot cause violations of any applicable surface water standards.

For implementation, the RWQCB focuses on 28 groundwater basins and 7 sub-basins in the Bay Area that serve, or could serve, as sources of high quality drinking water. The Westside Basin is one of these basins. The Basin Plan establishes the following groundwater protection and management goals for the Bay Area region:

- Identify and update beneficial uses and water quality objectives for each groundwater basin.
- Regulate activities that impact or have the potential to impact the beneficial uses of groundwater of the region.
- Prevent future impacts to the groundwater resource through local and regional planning, management, education, and monitoring.

#### **1.5.5 SAN FRANCISCO AND NORTHERN SAN MATEO COUNTY PILOT BENEFICIAL USE DESIGNATION PROJECT**

RWQCB staff, with contributions from local agencies, evaluated existing groundwater protection programs and beneficial uses of groundwater in San Francisco and northern San Mateo County (RWQCB, 1996). Extensive research was conducted and numerous references were compiled to complete the project. The project included the following goals:

- Describe the hydrogeology and groundwater uses for the groundwater basins
- Identify major threats to groundwater and groundwater protection programs
- Identify locations where groundwater is vulnerable to contamination
- Identify locations where groundwater monitoring is needed
- Use GIS to compile complex data sets to use as a decision-making tool for groundwater protection
- Refine beneficial use designations for some groundwater basins
- Identify inactive well locations
- Describe groundwater extraction for municipal, agricultural, and industrial water supply
- Summarize statewide initiatives for groundwater protection and data sharing



- Evaluate special problem areas not typically addressed by groundwater protection programs

The results of the project identified the Westside Basin as a valuable resource deserving of full protection and restoration, including aggressive remediation of contaminated groundwater, enhanced source control and groundwater protection to prevent additional pollution, and groundwater basin management to prevent overdraft.

### **1.5.6 GROUNDWATER AMBIENT MONITORING AND ASSESSMENT PROGRAM: SAN FRANCISCO BAY STUDY UNIT**

The Groundwater Ambient Monitoring and Assessment (GAMA) program is a comprehensive assessment of statewide groundwater quality implemented by the Water Board in coordination with the U.S. Geological Survey (USGS) and Lawrence Livermore National Laboratory. The program is designed to help better understand and identify risks to groundwater resources. The South Westside Basin was included in the study through the investigation of the San Francisco Bay study unit, which includes portions of San Francisco, San Mateo, Santa Clara, and Alameda Counties, with sampling from April through June 2007.

Groundwater was sampled from 79 wells within the San Francisco Bay study unit to characterize its constituents and identify trends in groundwater quality through a spatially unbiased assessment of raw groundwater quality. Four grid cell wells (SF-03, SF-04, SF-05, and SF-06) and seven understanding wells (SFM-A1, SFM-A2, SFM-A3 SFM-A4, SFM-B1, SFM-B2, and SFU-01) are located in or near the South Westside Basin. The focus on raw water quality rather than treated water quality and the spatially unbiased nature of the program set it apart from other sampling programs that typically use available data from existing wells that are biased toward better water quality and have data intended to meet regulatory requirements for drinking water supplies.

The test results provide information to address a variety of issues ranging in scale from local water supply to statewide resource management. Full analysis of the results will be included in a future USGS report.

### **1.5.7 BAY AREA INTEGRATED REGIONAL WATER MANAGEMENT PLAN**

The Bay Area Integrated Regional Water Management Plan (IRWMP) (RMC and Jones & Stokes, 2006) was developed through a Letter of Mutual Understanding by San Francisco Bay Area water, wastewater, flood protection, and stormwater management agencies; cities and counties represented by the Association of Bay Area Governments; and watershed management interests represented by the California Coastal Conservancy and non-governmental environmental organizations. The IRWMP outlines the region's water resource management needs and objectives, and presents innovative strategies and a detailed implementation plan to

achieve these objectives, contributing to sustainable water resources management in the Bay Area.

The following are the overall objectives of the Bay Area IRWMP:

- 1) Foster coordination, collaboration and communication among Bay Area agencies responsible for water and habitat-related issues.
- 2) Achieve greater efficiencies and build public support for vital projects.
- 3) Improve regional competitiveness for project funding.

The Bay Area IRWMP identifies regional priority projects, including two in the South Westside Basin: the Lomita Canal / Cupid Row Canal Upgrades at San Francisco International Airport and SFPUC Groundwater Projects (including Lake Merced Project, Local Groundwater Projects, and the Regional Groundwater Storage and Recovery Project).

The Bay Area IRWMP will be going through an update during 2011 – 2012 to ensure that the IRWMP is in compliance with Proposition 84 requirements, including a climate change impact assessment and integrated flood management.

#### **1.5.8 WATER SUPPLY AGREEMENT BETWEEN THE CITY AND COUNTY OF SAN FRANCISCO AND WHOLESALE CUSTOMERS IN ALAMEDA COUNTY, SAN MATEO COUNTY, AND SANTA CLARA COUNTY**

The Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County (Wholesale Water Supply Agreement) (July, 2009) defines the agreement for San Francisco to deliver, up to a defined quantity (Supply Assurance), water to the wholesale customers, including the water agencies in the South Westside Basin. The Supply Assurance includes the wholesale customers as a group, while Individual Supply Guarantees are defined for each agency (Table 1.2). These quantities are expressed in terms of daily deliveries on an annual average basis, although San Francisco agrees to operate the system to meet peak requirements to the extent possible without adversely impacting the ability to meet peak demands of retail customers.

The Wholesale Water Supply Agreement includes details on allocation, service areas, permanent transfers, resale, conservation, other supplies, water quality, maintenance, operation, shortages, wheeling, new customers, metering, the proposed conjunctive use program for the South Westside Basin, implementation of interim supply limitations, wholesale revenues, accounting, and other agreements.

**Table 1.2 Individual Supply Guarantees**

<b>Wholesale Customer</b>	<b>Individual Supply Guarantee (mgd)</b>	<b>Water Purchases Fiscal Year 2009-2010 (mgd)*</b>
California Water Services Company	35.68 (includes South San Francisco and areas outside the South Westside Basin)	32.6 (7.2 mgd for South San Francisco District)
City of Burlingame	5.234	3.9
City of Daly City	4.292	3.2**
City of Millbrae	3.152	2.2
City of San Bruno	3.246	1.5
Town of Hillsborough	4.090	3.0

\* BAWSCA, 2011

\*\* Amount shown does not include 1.9 mgd of in-lieu water purchases

### 1.5.9 URBAN WATER MANAGEMENT PLANS

Urban water management plans (UWMP) include descriptions and evaluations of historical, current, and future sources of water supply; efficient uses of water; demand management measures; implementation strategies and schedules; and other information as required by the Urban Water Management Planning Act. They are important components for the planning process of each agency and values from these plans are used extensively in Section 3, Water Requirements and Supplies, of this GWMP.

A UWMP is required for water agencies with more than 3,000 customers or that provide over 3,000 AF of water annually. Within the South Westside Basin, UWMPs have been developed and adopted by Burlingame, Daly City, Hillsborough, Millbrae, San Bruno, and CalWater. In the North Westside Basin, SFPUC has developed a UWMP.

## **1.6 PUBLIC PROCESS IN DEVELOPING THE GROUNDWATER MANAGEMENT PLAN**

The development of any GWMP is a collaborative process involving all interested stakeholders. Public input is critical to the success of the South Westside Basin GWMP and was a key component of its development.

The public was informed and encouraged to provide input and participate in the development of the GWMP in the following ways:

- GWMP web site: **www.southwestsideplan.com** provided information to the public regarding the GWMP. Details about groundwater management in general and specific to the South Westside Basin were provided. Meeting dates, locations, and materials were posted along with details of the South Westside Basin GWMP Advisory Committee (Advisory Committee) and contact information.
- Newspaper advertisements in the San Mateo County Times gave notice of public hearings.
- Public hearings provided opportunities for personal communications captured in the public record on specific topics, including resolution of intent to draft a GWMP and resolution of adoption of the GWMP.
- Public meetings provided details on the GWMP process and solicited input.
- Advisory Committee meetings provided detailed technical information on the GWMP and solicited input.
- Direct communication by telephone, email, and mail was encouraged at meetings and on the web site. Comments could be sent to the City of San Bruno project manager, local water agency staff, or the consultant project manager.

### **1.6.1 JUNE 2009 PRESENTATION TO IRRIGATION PUMPERS IN THE SOUTH WESTSIDE BASIN**

A presentation on the South Westside Basin GWMP was given on June 25, 2009 to cemetery and golf course interests as part of a SFPUC meeting on the proposed GSR and its potential impacts and benefits for cemeteries and golf courses. The meeting was held at 10:30 a.m. at the Colma Town Hall. The presentation gave an overview of groundwater planning, the proposed GWMP, and the process of developing the GWMP. Attendees were invited to provide contact information and to continue to provide guidance as the GWMP is developed and implemented. Copies of the presentation were provided to interested parties via email. Attendees included representatives from the following:

- Holy Cross Cemetery
- Lake Merced area golf courses
- Town of Colma

- City of Daly City
- City of San Bruno
- SFPUC

## **1.6.2 PUBLIC HEARINGS**

### **1.6.2.1 Intent to Adopt**

A public hearing of Intent to Adopt a Groundwater Management Plan was held at the regular meeting of the San Bruno City Council at 7 p.m. on August 24, 2010 at the San Bruno Senior Center. The hearing was advertised in the *San Mateo Times*, on August 10, 2010 and August 17, 2010. A resolution was adopted by the City Council and subsequently was published in the *San Mateo Times* on September 8, 2010 and September 15, 2010. The advertisements and the resolution are included in Appendix A.

### **1.6.2.2 Adoption**

A public hearing to adopt the Groundwater Management Plan was held at the regular meeting of the San Bruno City Council at 7 p.m. on July 10, 2012 at the San Bruno Senior Center. The hearing was advertised in the *San Mateo Times* twice prior to the hearing. The advertisements and the resolution are included in Appendix A.

## **1.6.3 PUBLIC MEETINGS**

A total of five public meetings were held to inform the public on the development of the groundwater management plan.

### **1.6.3.1 Background, Components, and Process**

Three public meetings were held at locations across the South Westside Basin to provide information on the importance of groundwater as a water supply, the need for management of the groundwater resource, the role of a GWMP, the role of the public in the development and implementation of the GWMP, and the preliminary goals, objectives, and elements of the groundwater management plan.

#### **1.6.3.1.1 San Bruno Presentation**

The presentation in the southern portion of the South Westside Basin was given at San Bruno City Hall on Thursday September 9, 2010 at 5:30 pm. The meeting was advertised on San Bruno's cable television station, noticed at City Hall, and advertised in the *San Mateo Times* on September 4, 2010.

#### **1.6.3.1.2 Daly City Presentation**

A presentation in the northern portion of the South Westside Basin at was given at Daly City City Hall on Thursday September 23, 2010 at 7:00 pm. The meeting was noticed at City Hall, on the city's web page, and on the city's cable television station. Interviews were provided to a student from San Francisco State University for airing on the campus radio station, KSFS.

#### **1.6.3.1.3 Colma Presentation**

The presentation in the central portion of the South Westside Basin was given at Colma Town Hall on Thursday October 13, 2010 at 11:30 am. The meeting was noticed at Town Hall. Extensive personal outreach was conducted to inform the numerous cemeteries that utilize private groundwater wells for their irrigation supply.

#### **1.6.3.2 Draft Plan Presentation**

The fourth public meeting was held at Colma Town Hall on May 24, 2011 at 11:30am. The meeting was noticed at Town Hall and outreach was performed to inform the cemeteries. The draft Groundwater Management Plan was presented and stakeholders were provided an opportunity to discuss the draft Plan and provide comments either in person or at a later date.

#### **1.6.3.3 Distribution of Draft GWMP**

The draft text of the GWMP was distributed to the public for comment on May 10, 2012. The comment period extended until June 9, 2012. One email was received with comments, which were addressed.

#### **1.6.3.4 Final Draft Plan Presentation**

The fifth public meeting was held at San Bruno City Hall on May 23, 2012 at 5:30 pm. The meeting was noticed at City Hall and advertised in the *San Mateo Times* on May 20, 2012. The final draft Groundwater Management Plan and the activities moving forward were discussed.

### **1.7 SOUTH WESTSIDE BASIN GWMP ADVISORY COMMITTEE**

The Advisory Committee was organized to solicit input and direct the development of the GWMP. Agencies and key stakeholders were provided written invitations to send to their representatives to invite them to participate in the Advisory Committee. Other stakeholders were invited to join through the public notification process, hearings, the web site, and public meetings. Table 1.3 lists the Advisory Committee members and their affiliations. Meetings were held from 2009 through 2011 to coordinate stakeholder input and incrementally build the GWMP. Agendas and minutes are included in Appendix A.

During implementation of the GWMP, it is anticipated that most of the members of the Advisory Committee will join the Groundwater Task Force. The Groundwater Task Force will guide the implementation of the GWMP and is described in more detail in Section 6.1.

**Table 1.3 Advisory Committee Members**

<b>Entity</b>	<b>Representative</b>
Bay Area Water Supply and Conservation Agency	Anona Dutton
City of Brisbane	Randy L. Breault
City of Burlingame	Phil Monaghan
California Water Services Company	Tom Salzano
DWR	Mark Nordberg
Cemeteries	Roger Appleby
Town of Colma	Brad Donohue
City of Daly City	Patrick Sweetland
RWQCB	Kevin D. Brown
City of San Bruno	Will Anderson
SFPUC	Greg Bartow
City of South San Francisco	Terry White
Interested citizens	Robert Riechel

### **1.7.1 DECEMBER 18, 2009 ADVISORY COMMITTEE MEETING 1**

An Advisory Committee meeting was held on December 18, 2009 to coordinate the Advisory Committee, develop a common understanding of basin conditions and groundwater management plans, and to develop a goal or goals for the basin. The meeting was held at San Bruno City Hall and was well attended, including representatives of the following:

- California Water Services Company
- City of Brisbane
- City of Burlingame
- City of Daly City
- City of San Bruno
- RWQCB
- SFPUC
- Town of Colma
- Private citizens
- Cemeteries

The meeting minutes are included in Appendix A.

### **1.7.2 MARCH 11, 2010 ADVISORY COMMITTEE MEETING 2**

The second Advisory Committee meeting was held on March 11, 2010 to discuss Basin Management Objectives (BMOs), both in general and specific to the South Westside Basin. The meeting was held at San Bruno City Hall and was attended by representatives of the following:

- Bay Area Water Supply and Conservation Agency
- DWR
- California Water Services Company
- City of Daly City
- City of San Bruno
- RWQCB
- SFPUC
- Town of Colma
- Cemeteries

The meeting minutes are included in Appendix A.

### **1.7.3 JUNE 24, 2010 ADVISORY COMMITTEE MEETING 3**

An Advisory Committee meeting was held on June 24, 2010 to discuss comments received on the BMOs and to discuss the Elements of the Plan. The meeting was held at San Bruno City Hall and was attended by representatives of:

- Bay Area Water Supply and Conservation Agency
- DWR
- California Water Services Company
- City of Daly City
- City of San Bruno
- SFPUC
- Town of Colma

The meeting minutes are included in Appendix A.

### **1.7.4 AUGUST 16, 2010 ADVISORY COMMITTEE MEETING 4**

An Advisory Committee meeting was held on August 16, 2010 to discuss basin governance and financing of the implementation of the groundwater management plan. The meeting was held at San Bruno City Hall and was attended by representatives of:

- DWR
- California Water Services Company
- City of Daly City
- City of San Bruno
- RWQCB
- SFPUC



- Town of Colma

The meeting minutes are included in Appendix A.

### **1.7.5 FEBRUARY 3, 2011 ADVISORY COMMITTEE MEETING 5**

An Advisory Committee meeting was held on February 3, 2011 to discuss the recent completion of a revision to the Westside Basin Groundwater Flow Model and the utility of the model in the development of the GWMP. The discussion included using the model to estimate the basin yield. The meeting was held at San Bruno City Hall and was attended by representatives of:

- California Water Services Company
- City of Daly City
- City of San Bruno
- SFPUC
- Town of Colma
- Cemeteries

The meeting minutes are included in Appendix A.

### **1.7.6 APRIL 28, 2011 ADVISORY COMMITTEE MEETING 6**

An Advisory Committee meeting was held on April 28, 2011 to update the current status of the Groundwater Management Plan to provide information to focus the review to be performed by the Advisory Committee. Progress toward participation in the CASGEM program was also discussed.

The meeting was held at San Bruno City Hall and was attended by representatives of:

- DWR
- California Water Services Company
- City of Daly City
- City of San Bruno
- SFPUC
- Town of Colma
- Cemeteries

The meeting minutes are included in Appendix A.

### **1.7.7 APRIL 15, 2011 DISTRIBUTION OF DRAFT GWMP**

The draft text of the GWMP was distributed to the Advisory Committee for comment on April 15, 2011. Comments were received from BAWSCA, CalWater, San Bruno, SFPUC, and Steve Lawrence and incorporated into the text as appropriate.

## **1.8 GROUNDWATER MANAGEMENT PLAN AND CONSISTENCY WITH CALIFORNIA WATER CODE**

Groundwater management is the planned and coordinated local effort of sustaining the groundwater basin in order to meet future water supply needs. With the passage of AB 3030 in 1992, local water agencies were provided a systematic way of formulating GWMPs (California Water Code, § 10750 et. seq.). SB 1938, passed in 2002, further emphasizes the need for groundwater management in California. SB 1938 requires AB 3030 GWMPs to contain specific plan components in order to receive state funding for water projects.

The South Westside Basin Groundwater Management Plan is prepared consistent with the provisions of California Water Code § 10750 et seq. as amended January 1, 2003. The South Westside Basin GWMP includes the seven components that are required to be eligible for DWR funds for the construction of groundwater projects or groundwater quality projects. The GWMP also addresses the 12 specific technical issues identified in the Water Code along with the seven recommended components identified in DWR Bulletin 118-03 (DWR, 2003). Table 1.4 lists the required and recommended components and identifies the specific section of this GWMP in which the components are discussed.

**Table 1.4 South Westside Basin GWMP Components**

<b>Component</b>	<b>GWMP Section(s)</b>
<b><i>SB 1938 Mandatory</i></b>	
1. Documentation of public involvement	1.6, 1.7, App. A
2. BMOs	4.3
3. Monitoring and management of groundwater elevations, groundwater quality, inelastic land subsidence, and changes in surface water flows and quality that directly affect groundwater levels or quality	5.2
4. Plan to involve other agencies located in the groundwater basin	5.1
5. Adoption of monitoring protocols	5.2, App. C
6. Map of groundwater basin boundary, as delineated by DWR Bulletin 118, with boundaries of agencies subject to the GWMP	Figures 1.1, 1.2, and 1.3
7. For agencies not overlying groundwater basins, GWMP prepared using appropriate geologic and hydrogeologic principles	n/a
<b><i>AB 3030 and SB 1938 Voluntary</i></b>	
1. Control of saline water intrusion	5.4.1
2. Identification and management of well protection and recharge areas	5.4.2
3. Regulation of the migration of contaminated groundwater	5.4.3
4. Administration of well abandonment and destruction program	5.4.4
5. Control and mitigation of groundwater overdraft	5.3.1
6. Replenishment of groundwater	5.3.2
7. Monitoring of groundwater levels	5.2.1, App. C
8. Development and operation of conjunctive use projects	5.3.3
9. Identification of well construction policies	5.4.5
10. Construction and operation of groundwater contamination cleanup, recharge, storage, conservation, water recycling, and extraction projects	5.5
11. Development of relationships with state and federal regulatory agencies	5.6.1
12. Review of land use plans and coordination with land use planning agencies to assess activities that create reasonable risk of groundwater contamination	5.6.3
<b><i>DWR Bulletin 118 Recommended</i></b>	
1. Management with guidance of advisory committee	1.7, 5.1
2. Description of area to be managed under GWMP	1.1, Figures 1.1, 1.2, and 1.3
3. Links between BMOs and goals and actions of GWMP	4, 6
4. Description of GWMP monitoring programs	5.2, App. C
5. Description of integrated water management planning efforts	1.5, 5.6.2
6. Report of implementation of GWMP	5.7
7. Periodic evaluation of GWMP	5.7